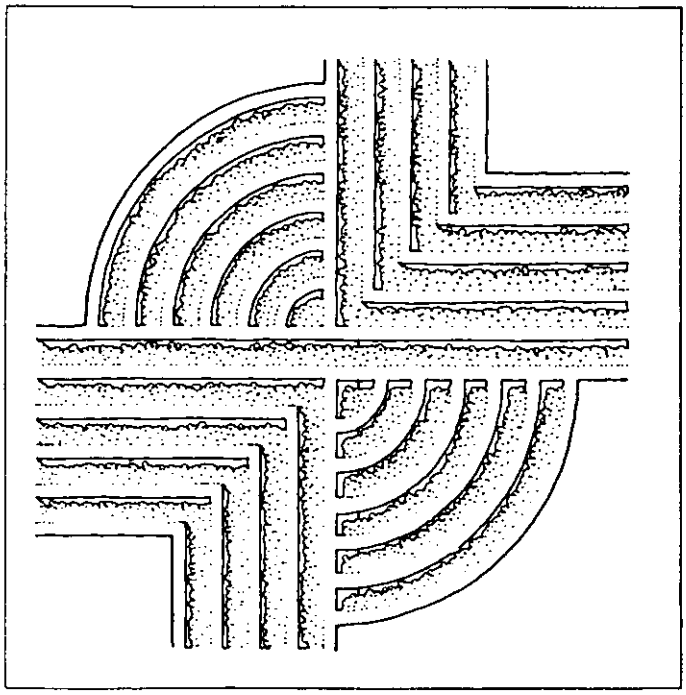
INTEGRATING ARCHAEOLOGY INTO HISTORIC LANDSCAPE AND GARDEN RESTORATION



CHICORA RESEARCH CONTRIBUTION 218

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Introduction

Archaeology. The term conjures up a series of stereotypes. Some think of elderly men in khaki shorts and pith helmets slowly brushing away the dust of ages. And then they yawn. Some think of Indiana Jones — ruggedly handsome, complete with a whip and fedora, constantly searching for indescribable treasures.

While amusing or enjoyable, these stereotypes are pretty far removed from the reality of archaeology. Rarely do archaeologists in the Southeast use brushes — shovels are much more common. And I have never seen a whip on an archaeological site, much less any sign of gold or precious stones. Instead, most archaeologists focus on helping business partners comply with various public laws designed to protect significant archaeological and historical sites.

Chicora Foundation, for example, has for nearly 15 years worked with business partners, major corporations, and developers to ensure that the heritage of the Southeast is preserved. We have produced a series of professional monographs on sites ranging from prehistoric camps dating nearly 8,000 years ago to twentieth century tenant houses. We have also focused on education, each year reaching out to nearly 4,000 students across South Carolina giving them some understanding of the real heritage and history of the Carolinas. As a public, non-profit organization we are also at the cutting edge of using archaeology to address important restoration and historic preservation questions. In fact, we have been very fortunate to work on several projects with the other speaker here today, Mary Palmer Dargan with the landscape architectural firm of Hugh Dargan and Associates.

What I would like to do today is provide you with an overview of how archaeology can help on landscape and garden restoration projects — providing solidly grounded information on a variety of questions and topics associated with preservation and restoration efforts. For those of you who have been involved in such projects in the past you probably haven't used archaeology and possibly didn't even realize that archaeology could make a contribution to your efforts.

There are regrettably few landscape architects willing to admit that other disciplines may be able to assist them in their restoration efforts. Hugh Dargan and Associates is an exception and that is partially why we have so thoroughly enjoyed our opportunities to work with them. Many landscape architects, however, view garden restoration as a formula — combining certain elements to achieve a pleasant concoction that has some validity in history, although it may have little relevance to their specific site. And often, of course, that is all the client wants — something that looks historic. Under such circumstances just about anyone can use any number of popular books to select a few appropriate plants, dig a few holes, and create a "period garden." Such an effort, however, often fails to take advantage of the unique site setting or grasp the complexity of the original historic landscape. There are also a series of garden treatises, such as *Systems Horticulture: or the Art of Gardening* (1683) and Phillip Miller's *The Gardener's Dictionary* (1731) that can be used to suggest what the "ideal" period garden might have looked like. The problem, of course, is that we know there are many differences between the "ideal" and the "real." Whether dealing with gardens, industrial sites, or plantation houses, the "ideal" is usually dramatically shaped and adjusted to fit individual needs, circumstances, and abilities.

There are also regrettably few archaeologists willing to come down from their towers of science to recognize that their discipline may have very practical functions and the ability to answer questions important to the public. "What did this garden look like," or "how was this garden created," may not draw deeply from the well of science, but they often are important questions to clients.

And archaeology is uniquely suited to address such questions. For years archaeologists have focused on their ability to "read" the soil. To carefully "peel back" layers of soil and reconstruct how sites

were created, and then buried. A good archaeologist can look at soil profiles and almost immediately begin to envision the process of the site's formation, use, and eventual loss or burial. When the traditional techniques of archaeology are combined with use of penetrometers to measure soil compaction and phytolith analyses to explore fossil plant evidence, archaeology can be an exceedingly good investment for those who need, or want, to know precisely what their historic landscape consisted of.

Of course, it is also important to understand that archaeologists, like any similar consultant, are not inexpensive. On the average, it costs between $800 and $1,000 a day to put an archaeological crew in the field. And for every day in the field, there is another day in the lab, processing collections, compiling data, and producing reports addressing your specific questions. Consequently, it is essential that questions be carefully outlined and that both client and archaeologist understand the goal of the project. Keeping the questions manageable will be the key to keeping costs contained.

What I would like to do over the next few minutes is describe aspects of several recent projects that have included landscape research, using them to illustrate how archaeology can address specific questions using a wide variety of field and laboratory techniques.

Crowfield Plantation

One of the most interesting projects we've been involved in was actually developed by Hugh Dargan and Associates for the Crowfield Plantation in Berkeley County, South Carolina. This is a very high status eighteenth century plantation in the low country of South Carolina. Arthur Middleton, an early political leader of the Carolina Provence, acquired the plantation in 1722, passing it to his son, William Middleton in 1729. Between acquiring the plantation and leaving Carolina in 1759, Middleton created an extraordinary grand mansion and garden, easily rivaling those still preserved in the Charleston area today. Some suggest that William Middleton was competing with his brother, Henry, who was developing Middleton Place and its gardens at the same time.

William Middleton, with his education in England and extraordinary wealth acquired from rice cultivation, seems to have participated in the early transition from formal to picturesque gardening. Crowfield, as evidenced by the remnants still present, as well as early accounts, includes elements of both. There are components of rigid formality, such as the central axis and bowling green to one side, as well as a loose interpretation of nature, such as the mounts, temple, and use of water. Interestingly, the use of water in several rectangular lakes at Crowfield seems also to be tied to the plantation's economic need to control water for inland swamp rice cultivation.

Although perhaps not possible to identify Crowfield as a single, isolated garden tradition, it is very important to recognize the plantation as one of the earliest to integrate clear and convincing fragments of the picturesque movement. As such, it is pivotal in the garden history of the Carolina province.

Our work in the garden was intended to address a broad — perhaps too broad in retrospect — series of questions. A number of these questions focused on the pathways — could they be found and how were they constructed? Others focused on the garden buildings — how did they relate to the garden plan? Questions also included the planting beds and the enclosures of the garden.

We found that the range of questions, while entirely appropriate, could not be addressed by the limited amount of work actually funded for the gardens. Consequently, we went through a process of narrowing the research goals, focusing on the pathways and the formation of the garden itself.

A series of excavations in the central garden area, as well as along the earthen berms defining this area, dramatically revealed the order and organization of the Crowfield gardens. Prior to the construction

of the gardens in the early eighteenth century, the lands were being cultivated for upland crops, perhaps corn. This is evidenced by remnant plowscars and the absence of cultural remains. When Middleton decided to build his settlement on this site, the first step was not clearing the land, since it was already under cultivation, but rather laying out the garden. In some areas this was accomplished by the removal of the plowed soil, piling it up to form a rough outline of the earthworks or berms to be created. This is evidenced by a central core of very dark, organic material.

Middleton was able to begin his work with a "blank canvas," creating an image entirely unique and clearly recognizing the "genius of the place," without any intrusion from the native vegetation. As we discovered, even the existing topography was largely ignored.

The next phase of the garden construction was the excavation of the various water devices, such as the circular pond at the south and the series of fish ponds at the north. These ponds produced approximately 49,000 cubic yards of spoil. Most, if not all, of this went into not simply the earthworks or berms around the garden, but also in raising the elevation of the garden about a foot from the original ground surface. As the garden area was being filled, Middleton was careful to ensure that a "trough" of fertile soil was placed at the interior toe of the earthen berms on the interior terrace garden. These would later serve as beds for the plantings on each side of the garden. Based on our preliminary review of garden literature, this is a unique and potentially very significant feature, of Crowfield. It certainly evidences considerable planning on the part of the garden's architect.

The earthworks, including the berms and mounts, were built from loads of sandy clay or clay sand. These features would have been carefully formed and rolled to compact the soil. In the interior terrace garden they were topped off with a relatively thin veneer of top soil, presumably just enough to grow grass, creating a pastoral scene. The use of such berms was apparently widespread and found later at Middleton Place, also in the Charleston area.

We were, frankly, less successful identifying pathways. There was, for certain, no evidence of in situ brick, shell, gravel, or sand pathways. There were no areas with gutters, suggestive of drainage along pathways. This may mean that the garden had no such pathways, relying instead on packed earth. Certainly the increased elevation of the garden would promote drainage and earthen pathways are historically documented.

Nevertheless, our research at Crowfield also documented that the site had been terribly treated by modern history. The site had been logged at least twice and looters had nearly torn down the main house and flankers in their quest for "Charleston Old Bricks." Such looting tends to be idiosyncratic and never totally complete, yet we were unable to locate any evidence of intact paths. We did, however, detect traces of brick rubble throughout the garden — far more than we would have anticipated from the house demolition.

At the present time, the evidence for walkways is equivocal. If pushed for a conclusion we would probably suggest brick pathways, although they cannot be clearly documented.

Although the main house at Crowfield was well known through Historic American Building Survey documents, the flankers were less well understood. Archaeological research revealed them symmetrically arranged about 65 feet east and west of the main house. Connecting all three structures was a curtain wall with gates adjacent to the main house. The walls may have served as screening apron or perhaps as a garden enclosure. Only one other low country plantation house has been found with a similar feature. Also revealed in our work was a structure, measuring about 10 feet square, at the northeast corner of the interior terrace garden. A paired mate is found at the northwest corner of the interior terrace garden.

More recent research at other sections of Crowfield have documented the slave settlement, as well as a portion of the plantation's farming core. This additional work reveals the potential importance of using a broad range of archaeological techniques to understand the past.

Phytoliths are mineral particles of varying shape and size that are produced by, and within, living plants as a result of their normal physiological processes. The common material of phytoliths is silica, which is stored in the plant issues and released when the plant dies and decomposes. They can remain preserved in the soil for very long periods of time and, fortunately for us, different species often have very distinct phytoliths.

Phytolith research is not commonly used by archaeologists, and this is too bad since the approach can provide some very significant information regarding the use and occurrence of plants in the historic landscape.

Our research at the farming core of Crowfield, for example, revealed the presence of two rather large brick structures, built one on top of the other. The first, measuring nearly 72 by 42 feet, had been demolished and largely cleaned up, replaced by a less carefully and somewhat smaller building measuring 51 by 26 feet. Both were substantial structures, built entirely of brick laid in English or common bond with walls 13-inches thick. The function of the two buildings was uncertain, although they were probably storage buildings of some sort. The recent results of phytolith studies suggest that the buildings were used to store rice — the principal commodity of the plantation. Called Carolina gold, because of its ability to make planters wealthy, the storehouses were likely constructed to secure the crop against theft, rodents, and particularly, fire.

Stoney/Baynard Plantation

Moving from Berkeley southward to the Hilton Head Island area, just north of Savannah on the South Carolina coast, Chicora Foundation has conducted extensive research at the Stoney/Baynard Plantation. Built in the last quarter of the eighteenth century by James Stoney, the main house ruins are still preserved. Built partially of tabby, the house was one and half stories and was situated on a very high sand rise overlooking water to the west and northwest. Archaeology identified the main entrance to the house and, more important for our discussions, also revealed a series of dark stains surrounding the stair supports that appear to be plantings. Although we did not sample the stains to determine the specific plants involved — in this case the client wasn't concerned with that information — we were able to help reconstruct something concerning the yard area. Our work also suggested that beyond these plantings, the yard was likely swept sand, a common feature for low country plantations.

Behind the main house, following the sandy rise, we located the remains the kitchen, itself a rather unique structure measuring about 14 by 18 feet. At the north gable end there was a very large chimney, while at the south gable end there was a small porch, about 5 feet in width spanning the entire gable end.

Beside the kitchen was a large midden pile — the rubbish from the kitchen thrown off the porch. Included in this pile were oysters, animal bones, soil, and invisible to the naked eye, pollen remains. Pollen, like phytoliths, can be used to identify different plant species. Unlike phytoliths, pollen tends to be somewhat delicate, often not surviving. Where it is present, however, it can provide spectacular information.

For example, at Stoney/Baynard the careful collection of soil for pollen studies revealed the presence of onion pollen. As any gardener knows, some onion plants will flower while forming their bulbs. These flowers were likely cut off and thrown in the midden or trash pile. Also identified was probable asparagus pollen. Asparagus was well known to colonial and antebellum gardeners and while often

mentioned in accounts of diners, is rarely seen in the archaeological record. Another pollen revealed in the kitchen midden was either the bell or hot pepper.

While in this case the information comes from agricultural plants — plants intended for "use" rather than "delight," the contribution of archaeological research is clear. We are able to much better understand the diet, as well as the kitchen garden, at Stoney/Baynard much better than we would otherwise — by simply ensuring that soil samples were collected without contamination and that these samples received appropriate analyses.

Rosemont Plantation

Moving from the low country into the up country or Piedmont of South Carolina we leave an area of plentiful research and enter one largely neglected by both landscape architects and archaeologists. For example, while Alice Lockwood in her *Gardens of Colony and State* devoted 44 pages to the gardens of the South Carolina low country, those in the up state were covered in only seven.

Rosemont Plantation is situated in Laurens County, about 70 miles northwest of Columbia on the edge of what is today Lake Greenwood and was built sometime between 1750 and 1790 by Patrick Cunningham. It wasn't, however, until the early nineteenth century that Rosemont became known for its grand gardens, probably through the efforts of Louisa Cunningham, the wife of Robert Cunningham. The gardens apparently reached their zenith between 1820 and 1850. With the arrival of the Civil War, the house and grounds began their long spiral into decay, with the house eventually burning in 1930.

Today Rosemont is largely a jungle of vegetation. Most of the land has been converted into pine forest and only the ruins of the house and a small surrounding acreage still preserved by a local historical society. Our investigations, while primarily designed to place the site on the National Register, also sought to better understand what were once known as the most spectacular gardens in the region.

Historical accounts suggest that the garden consisted of three sections: the informal park-like area between the house and the Saluda River, the more formal flower and thicket gardens immediately north of the house and extending around the library to the northeast of the main house, and the kitchen garden to the southwest of the main house. There was an avenue leading from the north to the south, apparently consisting of hedge rows of rose and boxwood, while a winding avenue of cedars and/or magnolias lead down to the river.

This generalized reconstruction seems appropriate for the time. Rosemont's use of winding paths, the park or natural areas, and thickets all are typical of the broad theme of picturesque movement. Coupled with these, however, are remnants of the formal approach incorporating the box avenue and circles, and the flower parterre. These areas emphasize order and control, clearly distinguishing them from the more picturesque areas around the house.

Our first effort was to open up the jungle of vegetation and using very conventional techniques to map the remnant vegetation — a technique no different from that used by landscape architects. The work revealed the evidence of plantings north and south of the main house, the kitchen garden tot he southeast of the house, and a few plantings around the main house. While the results may seem modest, given nearly 100 years of neglect and documented looting of plant materials by local individuals, the patterns remaining are quite impressive.

Leading north from the entrance to the house is central allée of tree box about 25 feet in width. This central pathway is adequate for a carriage path and it formed the central avenue to Rosemont. Somewhat asymmetrically centered on this allée are tree box planted as borders. Magnolia are also found

bordering the central tree box allée. These features form two park-like areas on either side of the central allée.

On the western edge and east-west row of smaller tree box form a partial, irregular partition between the outermost row of box and the central allée. No similar feature is found on the eastern side, although further north there are box that might have formed a similar partition, breaking up the larger open areas into small garden compartments.

The only remaining evidence of the box wood lined paths is found in the southwestern garden partition, where a small number of box are found which do not form any clear pattern. Immediately in front of the main house are four small box woods and two tree box which form an arc, accentuating the main entrance. Also in this area are the remains of several crepe myrtles. Other plants recognized as likely part of the garden include American holly, Osage orange, cryptomeria, black oak, slippery elm, and varnish trees.

Leading east from the main house complex are the remains of a crepe myrtle allée about 15 feet in width and 150 feet in length. At the end there are additional crepe myrtles which formed an enclosure. Also east of the house is what may have been the kitchen garden, enclosed by cedar posts.

Leading south from the main house toward the river are the remains of the cedar allée. Initially only 15 feet in width, the path widens to 25 feet. Although much of this path has been destroyed by a modern road and housing along the edge of Lake Greenwood, archaeological investigations reveal that the path was likely bare ground. There is evidence of extensive sheet erosion, suggesting that maintenance was likely a constant problem on the steep slope.

Elsewhere, however, archaeological research uncovered the presence of brick pathways. These varied from 4.3 feet to 3.75 feet in width, apparently depending on their prominence in the landscape. The paths follow the natural topography, although they are today buried by nearly a half foot of accumulated soil. The paths were dry laid in a basketweave pattern. Bricks were laid end to end to expose their face and lock the path in place.

Nearby, forming a path to the well shelter, we found a second path material — quartz pea gravel about ¼ to ½-inch in diameter. Today about 0.2 foot below the surface of the ground, this gravel is thoroughly mixed with soil. When in use, it was probably laid to create a reasonably firm and dry pathway.

Landscape Issues at Other Sites

Research by Chicora Foundation archaeologists at other antebellum plantation sites have identified a host of other landscape features. For example, at one plantation, on Kiawah Island, we identified a buried shell walkway. Later, we identified in the historical accounts the owner's wife writing a letter to husband, commenting on how nice such paths had appeared at a nearby plantation and how pleasant they would be at their own. Apparently, this wife held particular sway over her husband and the paths were, in fact, constructed.

Elsewhere we have found that use of penetrometers can provide excellent information on soil compaction, helping to identify areas where there has been extensive ground disturbance, such as plantings, as well as areas of compaction representing roadways or paths.

Throughout these discussions I have illustrated how archaeology can be another tool to help accurately identify, understand, and ultimately reconstruct period gardens and landscapes. Like most tools, archaeology is best used with specific goals in mind, and in conjunction with other approaches. It can

identify specific planting areas, or at times even the specific plants used. It can identify how gardens were laid out and constructed. Archaeological research can help identify pathway locations, construction techniques, and even the extent of their use. The potential of archaeological research to contribute to garden reconstructions is limited only by the time and funding available for the research.